

In the Claims:

1. A nitride semiconductor comprising a metal oxide layer,  
a first nitride buffer layer which includes said metal, formed on said metal oxide layer,  
a second nitride buffer layer formed on said first nitride buffer layer,  
and  
a nitride layer formed on said nitride buffer layers.
2. The nitride semiconductor of claim 1, wherein said metal oxide layer is a sapphire substrate and said metal is aluminum.
3. The nitride semiconductor of claim 1, wherein said first and second nitride buffer layers include Indium.
4. The nitride semiconductor of claim 1, wherein said second nitride buffer layer is a bivalent nitride layer.
5. The nitride semiconductor of claim 1, wherein said third nitride buffer layer which does not include said metal, is formed between said first nitride buffer layer and said second nitride buffer
6. The nitride semiconductor of claim 1, wherein nitride film is formed between said metal oxide layer and first nitride buffer layer.
7. A method of manufacturing a nitride semiconductor comprising;  
the first step of forming, on a metal oxide layer, a first nitride buffer layer including said metal ;  
a second step of forming a bivalent nitride buffer layers on said first

nitride buffer layers; and

a third step of forming a nitride semiconductor on said second nitride buffer layer.

8. The method of manufacturing a nitride semiconductor of claim 7, wherein said metal oxide layer is a sapphire substrate and said metal is aluminum.

9. The method of manufacturing a nitride semiconductor of claim 7, wherein in said first step, said first nitride buffer layer including said metal is formed on said metal oxide layer by the crystal growth method, ;

in said second step, said bivalent nitride buffer layers is formed on said first nitride buffer layers by the crystal growth method; and

in said third step, said nitride semiconductor is formed on said second nitride buffer layer by the crystal growth method.

10. The method of manufacturing a nitride semiconductor of claim 7, wherein said first nitride buffer layer including metal and said second nitride buffer layer include Indium.

11. The method of manufacturing a nitride semiconductor of claim 7, wherein said second nitride buffer layer is bivalent nitride layer.

12. The method of manufacturing nitride semiconductor of claim 7, comprising, an additional step of forming third nitride buffer layer which does not include said metal, on the said first nitride buffer layer, after said first step.

13. The method of manufacturing nitride semiconductor of claim 7, wherein said first nitride buffer layer is a  $\text{Al}_x\text{Ga}_y\text{In}_z\text{N}$  ( $0 < x \leq 1$ ,  $0 \leq y \leq 1$ ,  $0 \leq z \leq 1$ ) layer.

14. The method of manufacturing nitride semiconductor of claim 7, wherein said third nitride buffer layer is the  $\text{Ga}_x\text{In}_y\text{N}$  and ( $0 \leq x \leq 1$ ,  $0 \leq y \leq 1$ )

15. The method of manufacturing nitride semiconductor of claim 7, wherein said second nitride buffer layer is a layer of one selected from  $\text{AlN}$ ,  $\text{GaN}$ ,  $\text{InN}$ , and  $\text{SiN}_x$ .

16. The method of manufacturing nitride semiconductor of claim 15, wherein said nitride semiconductor layer is a  $\text{GaN}$  layer.

17. The method of manufacturing nitride semiconductor of claim 7, comprising additional step of forming a nitride film, after second step

18. The method of manufacturing nitride semiconductor of claim 17, wherein said nitride film is formed on sapphire substrate by treating sapphire substrate at the high temperature and letting ammonia( $\text{NH}_3$ ) flow thereon.

19. The method of manufacturing nitride semiconductor of claim 12, wherein said first nitride buffer layer, said second nitride buffer layer and said third nitride buffer layer are grown at the condition of  $400 \sim 600^\circ\text{C}$  to have thickness of  $10\text{--}1000\text{\AA}$ .